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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/039,277	01/04/2002	Frank D. Husson JR.	SOLAR1120-3	1245

30542 7590 11/12/2002

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EXAMINER

PRICE, CARL D

ART UNIT	PAPER NUMBER
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3743

DATE MAILED: 11/12/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/039,277

Applicant(s)

HUSSON, FRANK D.

Examiner

CARL D. PRICE

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-53 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-53 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
 If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
 * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
 a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____ 6) ☐ Other: _____

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DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

Claims 1,3-7,9,12,13,16,22,43,46 and 48 - rejected under 35 U.S.C. 102(b)

Claims 1,3-7,9,12,13,16,22,43,46 and 48 are rejected under 35 U.S.C. 102(b) as being anticipated by Billingham.

Billingham shows and discloses a solar heating mat for heating water present in a solar energy converting/absorbing container (10). The water heater container/absorber (10) is made from flexible black polyethylene material includes transparent air filled/inflatable upper (14) and lower (12) insulation structures. The heater of Billingham is capable of maintaining water temperatures of at least 60⁰ C. (see page 11, line 17). Billingham further discloses controlling the operation of a water pump in response to water temperature and water pressure sensor located in the heater (see page 12 lines 1-4). Water leakage sensors are also used (see paragraph 3, page

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12). The lower insulating support member (16) is made reflective to redirect solar radiation and radiant heat energy back on the collector/absorber (10).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-13,16-43 and 45-53- rejected 35 U.S.C. 103(a)

Claims 1-13,16-43 and 45-53 rejected under 35 U.S.C. 103(a) as being unpatentable over Luboschik et al (DE 28 51 793) in view of Billingham.

Luboschik et al discloses the invention substantially as set forth in the claims with possible exception to the water heater being capable of maintaining water temperatures of at least 60° C, water temperature sensor and the lower insulating support member (16) is made reflective to redirect solar radiation and radiant heat energy back on the collector/absorber.

Luboschik et al shows and discloses a solar heating mat for heating water present in a solar energy converting/absorbing container (1). The re-sealable water heater container/absorber (1) is made from flexible black polymer material (e.g. - PVC) and has includes transparent air filled/inflatable upper and lower insulation structures (9,11) having re-sealable filling valves

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(10). Luboschik et al also includes a re-sealable container filler opening (2a), a flexible valved (3a) spout/sprayer (3,3a) and a support (5,6) for holding the heating mat to permit gravity flow of water therefrom.

Billingham teaches, from the same solar energy water heater field of endeavor as by Luboschik et al, a solar heating mat for heating water present in a solar energy converting/absorbing container (10). The water heater container/absorber (10) is made from flexible black polyethylene material includes transparent air filled/inflatable upper (14) and lower (12) insulation structures. The heater of Billingham is capable of maintaining water temperatures of at least 60° C (see page 11, line 17). Billingham further discloses controlling the operation of a water pump in response to water temperature and water pressure sensor located in the heater (see page 12 lines 1-4). Water leakage sensors are also used (see paragraph 3, page 12). The lower insulating support member (16) is made reflective to redirect solar radiation and radiant heat energy back on the collector/absorber (10).

In regard to claims 1-13,16-43 and 45-53, for the purpose of increasing the amount of solar absorbed energy, decreasing the amount of lost re-radiated collector energy, and for monitoring the temperature of the heated water, and to ensure the water heated therein is potable, it would have been obvious to a person having ordinary skill in the art to modify the solar energy mat of Luboschik et al to operate in manner to maintain a water temperatures of at least 60° C, include a water temperature sensor and to form the lower insulating support member to have a reflective surface to redirect solar radiation and radiant heat energy back on the collector/absorber. In regard to claims 2,10 and 33, in particular, Official Notice is taken that it is

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well known to make solar energy container/absorbers from rigid material and pleated, for the purpose of extending the heated surface area of the collector member. In view of that which is well known, it would have been obvious to a person having ordinary skill in the art to make the collector container of Luboschik et al rigid and pleated. Also, in regard to claims 34,35,42,52 and 53, Official Notice is taken that it is well known to provide solar energy collectors with addition solar energy reflector/concentrator ("cooker") means to further increase the amount of solar energy radiation directed onto and absorber by the collector unit. Thus, in view of that which is well known, it would have been obvious to a person having ordinary skill in the art to provide Luboschik et al with additional reflective "cooker" structure. And, in regard to claims 30,39-41, Official Notice is taken that in order to produce water potable, or pasteurized, it is well known to pass water through biological carbon filters and to ensure the water is maintained at a suitably high temperature for at least a required time to achieve pasteurization. Thus, in view of that which is well known, for the purpose of producing potable water, it would have been obvious to a person having ordinary skill in the art to provide Luboschik et al with a carbon filter for water exiting the container and to the maintain the water therein at a temperature and time suitable for pasteurization. As a related matter, in regard to claims 27-29, it would have been obvious to a person having ordinary skill in the art to provide Luboschik et al with means, such as a water heater pasteurization indicator (WAPI) which is disclosed by applicant to be known for this purpose, for monitoring the water temperature history to ensure the water has met the conditions necessary for pasteurization. And, in regard to claims 8 and 29, since the manner in which the collector is made to be blackened and the manner in which the filler closure is secured would depend on numerous design concerns such as the availability of materials and

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manufacturing concerns, to blacken the Luboschik et al collector surface by applying a coating and to use a threaded connection for the filler cap, can be viewed as nothing more than merely matters of choice in design absent the showing of any new or unexpected results produced therefrom over the prior art of record.

Claims 14,15 and 44 - rejected under 35 U.S.C. 103(a)

Claims 14,15 and 44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Luboschik et al (DE 28 51 793) in view of Billingham, as applied to claims 1 and 43 above, and further in view of Homsey et al or Posnansky.

Luboschik et al discloses the invention substantially as set forth in the claims with possible exception to the collector/absorber member being perforated to permit the flow of water from one side to the other side.

Luboschik et al shows and discloses a solar heating mat for heating water present in a solar energy converting/absorbing container (1). The re-sealable water heater container/absorber (1) is made from flexible black polymer material (e.g. - PVC) and has includes transparent air filled/inflatable upper and lower insulation structures (9,11) having re-sealable filling valves (10). Luboschik et al also includes a re-sealable container filler opening (2a), a flexible valved (3a) spout/sprayer (3,3a) and a support (5,6) for holding the heating mat to permit gravity flow of water therefrom.

Billingham teaches, from the same solar energy water heater field of endeavor as by Luboschik et al, a solar heating mat for heating water present in a solar energy

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converting/absorbing container (10). The water heater container/absorber (10) is made from flexible black polyethylene material includes transparent air filled/inflatable upper (14) and lower (12) insulation structures. The heater of Billingham is capable of maintaining water temperatures of at least 60° C (see page 11, line 17). Billingham further discloses controlling the operation of a water pump in response to water temperature and water pressure sensor located in the heater (see page 12 lines 1-4). Water leakage sensors are also used (see paragraph 3, page 12). The lower insulating support member (16) is made reflective to redirect solar radiation and radiant heat energy back on the collector/absorber (10).

Each of Homsey et al (18) and Pasnansky (figure 9) teach, form the same solar energy field of endeavor as Luboschik et al, providing solar energy collector/absorbers with openings to permit the flow of fluid from one side to the other side thereof.

In regard to claims 14,15 and 44, for the purpose of permitting the flow of water through the surface of the Luboschik et al collector/absorber, it would have been obvious to a person having ordinary skill in the art to modify the collector to be perforated, in view of the teaching of either Homsey et al or Pasnansky.

Conclusion

See the attached **PTO FORM 892** for prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

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USPTO CONTACT INFORMATION

Any inquiry concerning this communication or earlier communications from the examiner should be directed to CARL D. PRICE whose telephone number is 703-308-1953. The examiner can normally be reached on Monday through Friday between 6:30am-3:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Henry Bennett can be reached on 703-308-0101. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9302 for regular communications and 703-872-9303 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 308-1148/0858.



CARL D. PRICE
Primary Examiner
Art Unit 3743

cp
November 3, 2002